## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re F	atent Application of:	)	Group Art Unit:
	Yi LU	)	Examiner:
		)	Zhammor.
Appli	cation No.	)	
Filed:		)	
For:	Nucleic Acid Enzyme Biosensors for	)	
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Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450

## TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT WITHIN THREE MONTHS OF FILING OR BEFORE MAILING OF FIRST OFFICE ACTION (37 C.F.R. section 1.97(b))

## IDENTIFICATION OF TIME OF FILING THE ACCOMPANYING INFORMATION DISCLOSURE STATEMENT

The information disclosure statement submitted herewith is being filed within three months of the filing date of the application or date of entry into the national stage of an international application or before the mailing date of a first Office action on the merits, whichever event occurs last. 37 C.F.R. section 1.97(b).

The filing of this information disclosure statement shall not be construed as a representation that a search has been made (37 C.F.R. section 1.97(g)), an admission that the

Transmittal of Information Disclosure Statement Page 2

Each item of information contained in this information disclosure statement was cited in parent application serial number 09/605,558. Copies of these references may be found in parent application serial number 09/605,558.

The filing of this information disclosure statement shall not be construed as an admission against interest in any manner. Notice of January 9, 1992, 1135 O.G. 13-25, at 25.

Respectfully submitted,

Dated: Ob Nova3

David E. Crawford, Jr.

Reg. No. 38,118

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						First Named Inventor			Yi Lu			
						Group Art	Group Art Unit					
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	1	US-5,807	,96	57	09-	15-1998	5-1998 Joyce et al.					
	2	US-5,580	,96	67	12-	03-1996	3-1996 Joyce					
	3	US-5,459	,04	40	10-	17-1995	Har	nmock et	al.			
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		Country Code <sup>3</sup>	Nur	nber4 Kind Code5 (if I	known)	MM-DD-YYYY		Applicant of C	Cited Document	Relevant Figures Appear	ļ	
	4	WO 00/26	322	26		05-11-200	00	Yale Unive	ersity			
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	5	GB 2,339,280	01-19-2000	RiboTargets Limited	
	6	WO 99/47704	09-23-1999	Jenne et al.	
	7	WO 98/49346	11-05-1998	The Scripps Research Institute	
	8	WO 98/27104	06-25-1998	Yale University	
	9	WO 96/17086	06-06-1996	The Scripps Research Institute	
	10	EP 121970	10-17-1984	Daisy Systems Holland B.V.	
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This collection of information is required by 37 CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT					Filing Date					
STA	LEWE	ENT BY A	<b>\PF</b>	PLICANT	First Named Inventor	Yi Lu				
					Group Art Unit					
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Sheet	Sheet 2 of 3 Attorney Docket No. 09800240-0078									
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Examiner Initials*  Cite No. Include name of the author (in CAPITAL LETTERS), title of the a item (book, magazine, journal, serial, symposium, catalog, etc.), da publisher, city and/or country where pu					nposium, catalog, etc.), date, page(s)		T <sup>2</sup>			
	11			earch Report dated mber PCT/US01/20	January 15, 2003, for corre	esponding PCT				
,-	12		R et	al., "A DNA Enzyn	ne that Cleaves RNA," Che	em. & Biol., 1994, pp.				
	13				997, pp. 3145-3150, Vol. 3					
	14				rization and Divalent Meta					
					hich Cleave DNA/RNA C					
	15				997, pp. 188-202, Vol. 269					
	13	Soc., 2000, pp. 174-175, Vol. 122.								
	16									
	17				s for a Phosphodiester-Clean, 483-489, Vol. 275.	wing, Lead-Dependent,				
	DNAzyme," J. Mol. Biol., 1998, pp. 483-489, Vol. 275.  18 GEYER et al., "Evidence for the Metal-Cofactor Independence of an RNA Phosphodiester-Cleaving DNA Enzyme," Chem. & Biol., 1997, pp. 579-593, Vol. 4.									
	19		HOOGSTRATEN et al., J. Mol. Biol., 1998, pp. 337-350, Vol. 284.							
20 HOOGSTRATEN et al., J. Am. Chem. Soc., 2002, pp. 834-842, Vol. 124.							-			
	21									
	22	KHAN et	al., 1	Nucl. Acid. Res., 19	96, pp. 3568-3575, Vol. 24	<b>I</b> .				
	23 KIM et al., J. Biochem., 1997, pp. 1062-1067, Vol. 122.									
	24	24 KOZUMI et al., Allosteric Selection of Ribozymes That Respond to the Second Messengers cGMP and cAMP," Nature Struct. Biol., 1999, pp. 1062-1071, Vol. 6.								
	25									
	26	<del></del>		al., RNA, 1998, pp.						
	27	LI et al, "I	n vit	ro Selection and Ch	aracterization of a Highly ribozyme," Nucl. Acid. Res	` *				
	28	LIU et al., "A Fiber-Optic Evanescent Wave DNA Biosensor Based on Novel Molecular Beacons," Anal. Chem., pp. 5054-5059, Vol. 71.								

<sup>\*</sup>EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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Substitu	te for fo	orm 1449B/PTO	Complete if Known					
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Sheet	<u> </u>	<b>3</b> of 3	Attorney Docket No.	09800240-0078				
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Examiner Initials*	Cite No.1	Include name of the author (in CAPITAL item (book, magazine, journal, serial, syr	LETTERS), title of the article (when appropriate), title of the prosium, catalog, etc.), date, page(s), volume-issue number(s), y and/or country where published.					
	29	MECKLENBURG et al., Anal. Ch	nimica Acta, 1997, pp. 79-8	36, Vol. 347.				
	30	MULLAH et al., Tetrahedron Lett	., 1997, pp. 5751-5754, Vo	1. 38.				
	31	NAZARENKO et al., Nucl. Acid.	Res., 1997, pp. 2516-2521	, Vol. 25.				
	32							
-	33	OMICHI et al., Biochem., 1997, p						
	34	OTA et al., "Effects of Helical Structures Formed by the Binding Arms of DNAzymes and Their Substrates on Catalytic Activity," Nucl. Acid. Res., 1998, pp. 3385-3391, Vol. 26.						
	35	POTYRAILO et al., "Adapting Se Biosensors," Anal. Chem., 1998, p		ds (Aptamers) to				
	36	SABANAYAGAM et al., "Oligon	ucleotide Immobilization o	•				
	37		Streptavidin Surfaces," Nucl. Acid. Res., 2000, Vol. 28, 4 pages.  SANTORO et al., "Mechanism and Utility of an RNA-Cleaving DNA Enzyme,"  Riochem, 1998, pp. 13330-13342, Vol. 37					
	38	SANTORO et al., "A General Pur Acad. Sci. USA, 1997, pp. 4262-4	pose RNA-Cleaving DNA	Enzyme," Proc. Natl.				
	39	SCOTT, Current Opinion in Struct	ctural Biology, 1998, pp. 337-350, Vol. 8.					
	40	STOJANOVIC et al., "Aptamer-Based Folding Fluorescent Sensor for Cocaine," J. Am. Chem. Soc., 2001, pp. 4928-4931, Vol. 122.						
	41	STOJANOVIC et al., "Fluorescence Sensors Based on Aptamer Self-Assembly," J. Am. Chem. Soc., 2000, pp. 11547-11548, Vol. 123.						
	42	STREICHER et al., Nucl. Acid. Res., 1993, pp. 311-317, Vol. 21.						
•	43	SUGIMOTO et al., FEBS Lett., 19						
	44	WALTER et al., "Folding of the F Biochem., 1998, pp. 17629-17636	our-Way Junction of the H	airpin Ribozyme,"				
	45	WEDEKIND et al., Nature Structu		-268, Vol. 6.				
	46	WILLIAMS et al., EMBO J., pp. 4						

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